1-25-1985

Pygmy Shrew, *Microsorex hoyi*

Hugh H. Genoways
University of Nebraska - Lincoln, h.h.genoways@gmail.com

Status Undetermined

PYGMY SHREW
Microsorex hoyi
Family Soricidae
Order Insectivora

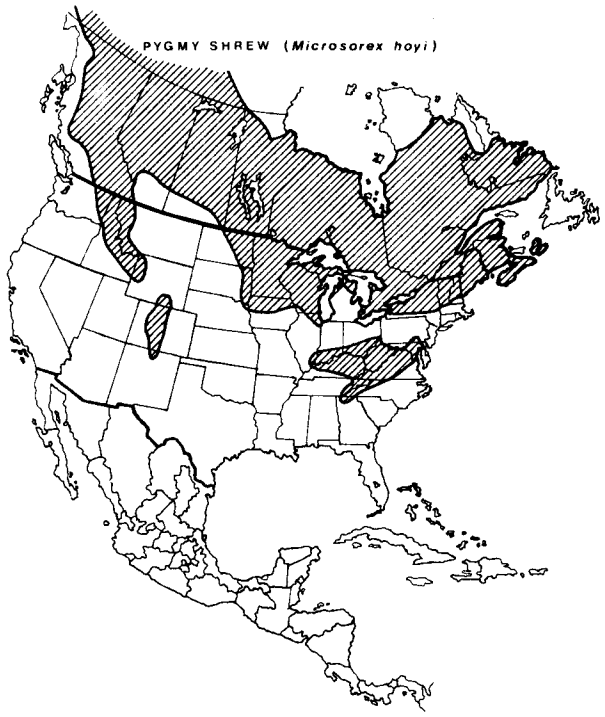
DESCRIPTION: The pygmy shrew is the smallest member of the mammalian fauna of Pennsylvania. It most closely resembles the masked shrew (*Sorex cinereus*); however, the pygmy shrew is somewhat smaller with a slightly shorter tail than the masked shrew. The two species can only be definitely distinguished by examination of the unicuspid teeth at the front of the toothrow. In the pygmy shrew, the third unicuspid has been compressed anteroposteriorly and the fifth unicuspid is minute; therefore, only three unicuspids are easily seen when viewed from the lateral side. In the masked shrew by contrast, five unicuspids are easily seen in lateral view.

The eyes and external ears are small and the fur is short and velvety. The upper parts of the body are dark brown with lighter colored sides. The underparts are gray with tints of white or rusty brown. Individuals weigh 2.5 to 4.0 g. Average external measurements of pygmy shrews are as follows: total length, 85 mm; length of tail, 29.5 mm; length of hind foot, 9.5 mm.

Long (1972*a*) recognized two species in this genus; however, the most recent reviser of this group (Diersing, 1980) only recognized a single species, *M. hoyi.* Diersing (1980) placed the genus *Microsorex* as a subgenus of *Sorex* but this arrangement is not followed.

RANGE: The pygmy shrew occurs throughout most of central and southern Canada, Alaska, and the north-central and northeastern United States. The species also has populations extending along the Rocky Mountains and Appalachian Mountains. Although the species reaches as far south as northern Georgia, Pennsylvania is a major gap in the distribution along the Allegheny-Appalachian mountains. The species is known from localities in adjacent areas of Ohio, New York, and Maryland, but documented specimens are not available from Pennsylvania (Hall, 1981).

HABITAT: The pygmy shrew seems to prefer boreal habitats where wet and dry soils are available. Pygmy shrews have been captured in swamps and marshes, but others have been taken in dry upland situations. Most individuals have been captured within 100 meters of water. Pygmy shrews are commonly found in areas undergoing succession where such plants as birch, aspen, jack pine, blackberry, and raspberry are found. Specimens of pygmy shrew are commonly captured in association with red-backed voles, *Clethrionomys gapperi.*



LIFE HISTORY AND ECOLOGY: No data are available for the pygmy shrew in Pennsylvania. Few records of reproduction are available concerning this shrew from throughout its geographic range but the evidence that is available indicates that five to eight young are produced in each litter and these are borne during the summer months. Population density was estimated to 0.52 individual/hectare in upper Michigan.

The food of the pygmy shrew is primarily larval and adult insects. Insect groups reportedly taken include lepidopterans, coleopterans, and dipterans.

BASIS OF CLASSIFICATION: Only one specimen of this species has previously been reported from Pennsylvania (Roslund, 1951; Doutt et al., 1967). This specimen was recovered from the stomach of a red fox trapped in Potter Co. Re-examination of this specimen has revealed, however, that it is a masked shrew and not a pygmy shrew (Diersing, 1980). Pygmy shrews are known from New York, Maryland, and West Virginia and have been reported from two late Pleistocene cave faunas (Guilday et al., 1964, 1966) in the Commonwealth. Of seven species of shrews in the cave fauna from Bedford County, pygmy shrews were the third most abundant species. There seems to be no obvious

reasons why the pygmy shrew should not be part of the modern mammalian fauna of Pennsylvania.

RECOMMENDATIONS: An intensive program of pitfall trapping in the montane habitats of the Allegheny Mountains should be undertaken to search for the presence of pygmy shrews in the Commonwealth. This study should be designed to provide information on the distribution, life history, and habitat preferences of this shrew as well as other species of shrews that would also be taken.

SELECTED REFERENCES:

BROWN, L. N. 1967. Ecological distribution of six species of shrews and comparison of sampling methods in the central Rocky Mountains. J. Mamm., 48:617–623.

DIERSING, V. E. 1980. Systematics and evolution of the pygmy shrews (subgenus *Microsorex*) of North America. J. Mamm., 61:76–101.

DOUTT, J. K., C. A. HEPPENSTALL, and J. E. GUILDAY. 1967. Mammals of Pennsylvania. Pennsylvania Game Comm., Harrisburg, 281 pp.

GUILDAY, J. E., H. W. HAMILTON, and A. D. MCCRADY. 1966. The bone breccia of Bootlegger Sink, York County, Pa. Ann. Carnegie Mus., 38:145–163.

GUILDAY, J. E., P. S. MARTIN, and A. D. MCCRADY. 1964. New Paris No. 4: A Pleistocene cave deposit in Bedford County, Pennsylvania. Bull. Nat. Speleo. Soc., 26:121–194.

HALL, E. R. 1981. The mammals of North America. John Wiley & Sons, New York, 1:xv + 1–600 + *90*.

HAMILTON, W. J., JR. and J. O. WHITAKER, JR. 1979. Mammals of the eastern United States. Cornell Univ. Press, Ithaca, New York, 2nd ed., 346 pp.

LONG, C. A. 1972*a*. Taxonomic revision of the mammalian genus *Microsorex* Coues. Trans. Kansas Acad. Sci., 74:181–196.

———. 1972*b*. Notes on habitat preference and reproduction in pygmy shrews. Canadian Field-Nat., 86:155–160.

———. 1974. *Microsorex hoyi* and *Microsorex thompsoni*. Mammalian Species, 33:1–4.

ROSLUND, H. R. 1951. Mammal survey of northcentral Pennsylvania. Final Report Pittman-Robertson Project 37-R. Pennsylvania Game Comm., Harrisburg, 55 pp.

SPENCER, A. W., and D. PETTUS. 1966. Habitat preferences of five sympatric species of long-tailed shrews. Ecology, 47: 677–683.

PREPARED BY: Hugh H. Genoways, *Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, PA 15213.*